DVD-LS90

Panasonic

Operating Instructions

Portable DVD/CD Player

Model No. **DVD-LS90**
DVD-LS93

Dear customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.
Before connecting, operating or adjusting this product, please read the instructions completely.
Please keep this manual for future reference.

Operations in these instructions are described mainly with the main unit, but you can do the operations on the remote control if the remote controls are the same (➜ Back cover)

Unless otherwise indicated, illustrations in these operating instructions are of DVD-LS90.

MULTI-FORMAT PLAYBACK

DVD-RAM
recorded with DVD video recorders etc.
Video & Still pictures (JPEG)

DVD-RW (DVD-VR)
recorded and finalized with DVD video recorders etc.

DVD-Video/Video CD/CD
sold on the market
Movie, Music etc.

DVD-R/DVD-RW/+R/+RW
recorded and finalized with DVD video recorders etc.
Video (played as DVD-Video)

CD-R/CD-RW
recorded and finalized with personal computers etc.
Music (WMA/MP3) & Still pictures (JPEG)

See page 5 for details.

DVD VIDEO™ COMPACT disc DIGITAL VIDEO RAM COMPATIBLE PLAYER

PalmTheater

For U.S.A.:
The warranty can be found on page 28.
For Canada:
The warranty can be found on page 30.

If you have any questions contact

In the U.S.A.: 1-800-211-PANA(7262)
In Canada: 1-800-561-5505

PRINTED WITH SOY INK™
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P PP

RQT8067-3P

WARNING:

...e driver must not operate this unit ...e the vehicle is moving.
... operate this unit where it can be ...y the driver.
...ration or viewing of this unit ...hicle is moving will cause ...ch may result in serious ...sonal injury or property

...A LASER.
...USTMENTS ...EDURES ... HEREIN ...UATION

...O

Table of contents

IMPORTANT SAFETY INSTRUCTIONS 4
Accessories 5
Discs that can be played 5

Preparations
❶ Attaching the battery 6
❷ Recharging the battery 6
❸ The remote control 7
❹ Adjusting the LCD angle 7

Play 8

Useful functions 10
Enjoying higher quality audio and video 12
Program/Random play 13
Playing data discs 14
Playing HighMAT™ discs 15
Playing programs/playlists on RAM/DVD-RW (DVD-VR) ...discs 15
...g CD 15
...n-Screen Menus 16
... the player settings 18
...nit with ...ment 20
...Adaptor 21

...tions 22
...23

. . . 22
. . . 23
. . . 24

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

IMPORTANT SAFETY INSTRUCTIONS

Batteries

1. **Battery pack (Lithium ion battery pack)**
   - Use this unit to recharge the battery pack.
   - Do not use the battery pack with equipment other than the specified player.
   - Do not use the player outside if it is snowing or raining. (The battery pack is not waterproof.)
   - Do not get dirt, sand, liquids, or other foreign matter on the terminals.
   - Do not touch the plug terminals (+ and −) with metal objects.
   - Do not disassemble, remodel, heat or throw into fire.
2. **Button-type battery (Lithium battery)**
   - Insert with poles aligned.
   - Do not touch the terminals (+ and −) with metal objects.
   - Do not disassemble, remodel, heat or throw into fire.
   - Keep out of reach of children

If any electrolyte should come into contact with your hands or clothes, wash it off thoroughly with water.
If any electrolyte should come into contact with your eyes, never rub the eyes.
Rinse eyes thoroughly with water, and then consult a doctor.

3. **Disposing of the batteries**
   Check and follow your local regulations before disposal.

CAUTION:

The batteries used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble or incinerate the batteries. Do not heat the batteries above the following temperatures.

Button-type battery **100 °C (212 °F)**
Battery pack **60 °C (140 °F)**

Do not recharge the button-type battery. Replace only with Panasonic part number indicated below:

Button-type battery (Lithium battery)
(for remote control) **CR2025**
Battery pack
(Lithium ion battery pack)
CGR-H702
CGR-H703

Use of other batteries may present a risk of fire or explosion.

THE FOLLOWING APPLIES ONLY IN THE U.S.A. AND CANADA

A lithium ion/polymer battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

Accessories

Use numbers indicated in parentheses when asking for replacement parts.
(Product numbers correct as of February 2005. These may be subject to change.)
(Only for U.S.A.) To order accessories, refer to "Accessory Purchases" on page 29.
(For other areas) To order accessories, call the dealer from whom you have made your purchase.

- ☐ **1 Remote control** (N2QAHC000021)
- ☐ **1 Button-type battery** for remote control (for replacement, see page 7.)
- ☐ **1 Audio/video cable** (K2KA6CB00003)
- ☐ **1 AC adaptor** (RFEA213W)
- ☐ **1 AC power supply cord** (K2CB2CB00006)
- ☐ **1 Rechargeable battery pack**
  - DVD-LS90 (CGR-H702)
  - DVD-LS93 (CGR-H703)
  - For replacement: Available from Panasonic dealers
- ☐ **1 Car DC Adaptor** (RFEC201M)

- The included AC power supply cord and AC adaptor are for use with this unit only. Do not use them with other equipment.
- **Optional battery pack** (Lithium ion battery pack) CGR-H703, CGR-H702

Discs that can be played

Operations in these instructions are described mainly with reference to specific formats.
Icons such as RAM show the formats.

DVD-RAM RAM 4.7	**DVD-RAM** RAM JPEG • RAM Recorded with devices using Version 1.1 of the Video Recording Format (a unified video recording standard), such as DVD video recorders, DVD video cameras, personal computers, etc. • JPEG Recorded with Panasonic DVD-Video recorders using DCF (Design rule for Camera File system) Standard Version 1.0. To play JPEG files, select "Play as Data Disc" (➔ page 17, Other Menu).
DVD VIDEO DVD VIDEO	**DVD-Video** DVD-V Discs marked with labels containing the region number "**1**" or "**ALL**" **Example:**
DVD R R4.7 DVD RW	**DVD-R (DVD-Video)/DVD-RW (DVD-Video)** DVD-V Discs recorded and finalized※ on DVD video recorders or DVD video cameras
	DVD-RW (DVD-VR) DVD-RW (VR) Discs recorded and finalized※ on DVD video recorders or DVD video cameras using Version 1.1 of the Video Recording Format (a unified video recording standard).
—	**+R (Video)/+RW (Video)** DVD-V Discs recorded and finalized※ on DVD video recorders or DVD video cameras
COMPACT disc DIGITAL VIDEO COMPACT disc SUPER VIDEO	**Video CD** VCD Including SVCD (Conforming to IEC62107)
COMPACT disc DIGITAL AUDIO COMPACT disc DIGITAL AUDIO TEXT	**CD** CD WMA MP3 JPEG VCD • This unit can play CD-R/RW recorded with the above formats. Close the sessions or finalize※ the disc after recording. • WMA MP3 JPEG This unit also plays HighMAT discs.

※A process that allows play on compatible equipment.

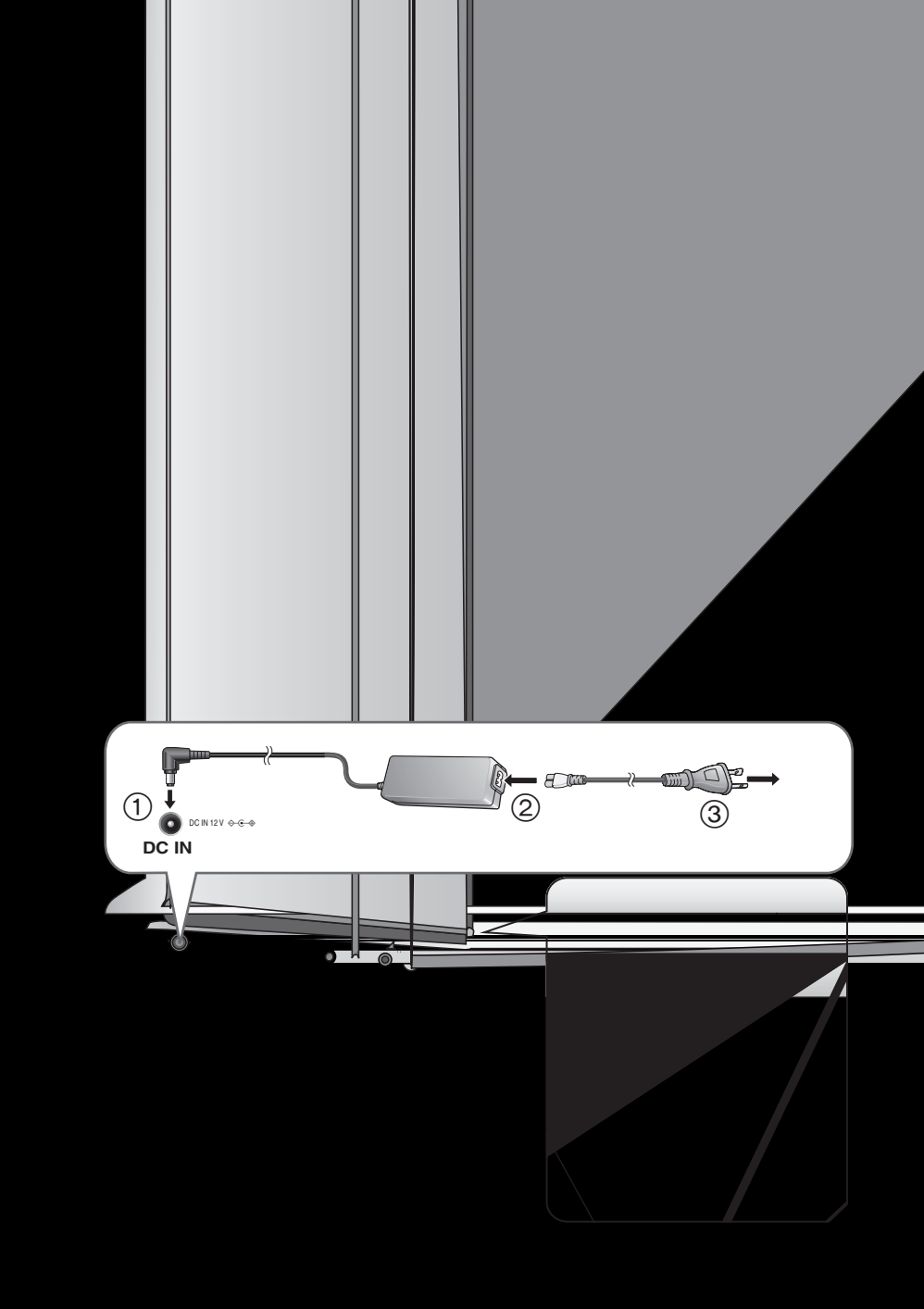
- It may not be possible to play the above discs in all cases due to the type of disc or condition of the recording.

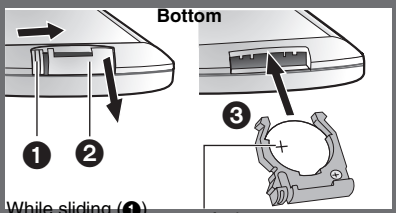
■ Discs that cannot be played

DVD-Audio, DVD-ROM, Version 1.0 of DVD-RW, CD-ROM, CDV, CD-G, SACD, DivX Video Discs and Photo CD, DVD-RAM that cannot be removed from their cartridges, 2.6-GB and 5.2-GB DVD-RAM, PAL discs and "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

Note about using a DualDisc

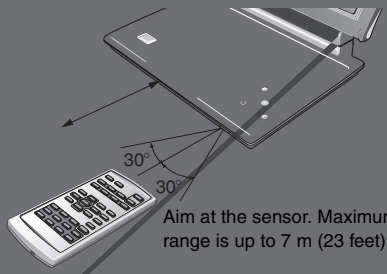
- The digital audio content side of a DualDisc does not meet the technical specifications of the Compact Disc Digital Audio (CD-DA) format so play may not be possible.
- Do not use a DualDisc in this unit as it may not be possible to insert it correctly and it may get scratched or scraped.


①
DC IN 12 V
DC IN
②
③



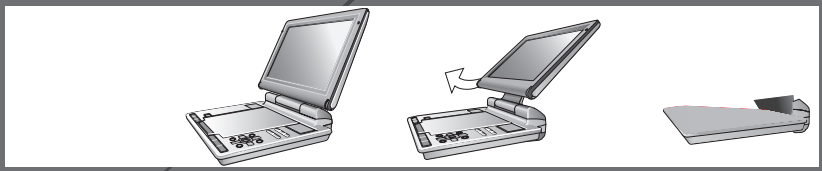
While sliding (❶), pull out (❷).

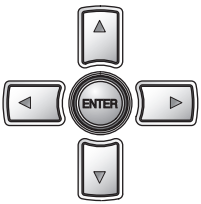
+ facing up
Lithium battery: **CR2025**



Aim at the sensor. Maximum range is up to 7 m (23 feet).

- Keep out of the small children.
- Accidental swallowing of batteries can result in stomach and intestinal damage.



	Skip	Press **[⏮, ⏭]**. RAM DVD-RW (VR) Can also skip to the markers.
	Search	Press and hold **[⏮, ⏭]** (up to 5 steps).
	Slow play	Press and hold **[⏮, ⏭]** (up to 5 steps) while paused. Press **[►, ON]** to return to normal play. VCD **[⏭]** only
TOP MENU	**Top menu**	DVD-V
	Playing programs	RAM DVD-RW (VR) (➜ page 15)
MENU	**Menu**	DVD-V
	Playing playlists	RAM DVD-RW (VR) (➜ page 15)
	Navigation menu	WMA MP3 JPEG (➜ page 14)
RETURN	**Return**	Returns to the previous screen. VCD (with playback control) Returns to the menu.
	**Menu operation**	Press **[▲ ▼◄ ►]** to select an item and press **[ENTER]** to confirm.
	Frame-by-frame	While paused, press **[◄ ►]**. VCD **[►]** only
	Group skip	WMA MP3 JPEG Press **[▲ ▼]**.

Remote control operations

	Skip	Press **[⏮, ⏭]**.
	Search	Press **[◄◄, ►►]** (up to 5 steps).
	Slow play	Press **[◄◄, ►►]** (up to 5 steps) while paused. Press **[►]** (PLAY) to return to normal play. VCD **[►►]** only
	Enter number	RAM DVD-RW (VR) DVD-V VCD CD e.g. To select 12: **[≧10] ➜ [1] ➜ [2]** VCD with playback control While stopped, press the numbered buttons. WMA MP3 JPEG e.g. To select 123: **[1] ➜ [2] ➜ [3] ➜ [ENTER]**

• You cannot turn on the unit with the remote control if the unit is powered by the battery pack.

Selecting how to show 4:3 aspect pictures on the LCD

Press to select the monitor mode.

NORMAL: Normal
FULL: Stretched horizontally
ZOOM: Stretched vertically and horizontally
OFF: No picture

- If you are not using the LCD on this unit, select "OFF" to conserve power. (The **[⏻]** indicator flashes)
- The LCD turns off automatically if you close it.

Adjusting the picture quality on the LCD

1

2

Press [▲▼] to select the item, and [◄ ►] to change the setting.

- **To exit the screen :** Press **[PICTURE MODE].**

Changing soundtracks DVD-V (with multiple soundtracks) RAM DVD-RW (VR) VCD

(Remote control)

Press to select the soundtrack.

RAM DVD-RW (VR) VCD

You can use this button to select "L", "R" or "L R".

DVD-V (Karaoke discs)

Press **[◄►]** to select "On" or "Off" for vocals.
Read the disc's instructions for details.

- **To exit the screen :** Press **[RETURN].**

Signal type/data

LPCM/DD Digital/DTS/MPEG: Signal type
kHz (Sampling frequency)/bit/ch (Number of channels)
Example: 3/2 .1ch

- 1: Low frequency effect (not displayed if there is no signal)
- 0: No surround
- 1: Mono surround
- 2: Stereo surround (left/right)
- 1: Center
- 2: Front left+Front right
- 3: Front left+Front right+Center

Changing subtitles DVD-V (with subtitles) VCD (SVCD only) RAM DVD-RW (VR)

(On/Off only with discs that contain subtitle on/off information)

(Remote control)

DVD-V VCD

Press to select the subtitle language.

- On +R/+RW, a subtitle number may be shown for subtitles that are not displayed.

To clear/display the subtitles
Press **[◄ ►]** to select "On" or "Off".

RAM DVD-RW (VR)

Press to select "On" or "Off".

- Subtitle on/off information cannot be recorded using Panasonic DVD Recorders.

- **To exit the screen :** Press **[RETURN].**

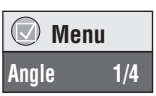
Angle select DVD-V (with multiple angles) / Still picture rotation JPEG

(Remote control)

Press to select the angle or rotate the still picture.

- **To exit the screen :** Press **[RETURN].**

e.g. DVD-V



Enjoying higher quality audio and video

Multi Re-master

RAM DVD-RW (VR) DVD-V (Discs recorded with 48 kHz only) VCD CD
This feature gives you a more natural sound by adding the higher frequency signals not recorded on the disc.

WMA MP3 (Disc recording is other than 8 kHz, 16 kHz or 32 kHz)
This feature reproduces the frequencies lost during recording to give you a sound closer to the original.

1 DISPLAY

Press once.

2

① Press [▲▼] to select Other Settings.
② Press [▶] to go to the next menu and [▲▼] to select "Audio Menu".
③ Press [▶] to go to the next menu and [▲▼] to select "Multi Re-master".
④ Press [ENTER] and [▲▼] to select "1", "2" or "3".
⑤ Press [ENTER].

- **To exit the screen :** Press **[RETURN].**

Setting	DVD-V CD (LPCM) Type of music	**Other discs** Effect level
1	High tempo (e.g., pop and rock)	Light
2	Various tempos (e.g., jazz)	Medium
3	Low tempo (e.g., classical)	Strong
Off	Off	Off

- Multi Re-master may not work when connecting with a digital optical cable (➜ page 20).

Picture Mode

The above indicated features may not work depending on the disc's recording.

Program/Random play Remote control only

DVD-V VCD CD WMA MP3 JPEG

PLAYMODE

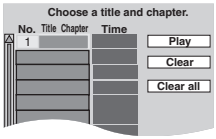
While stopped
Press to change.

Program play → **Random play** → **Off (Normal play)** → **Program play**

- Disable HighMAT disc play to use random and program play.
  Select “Play as Data Disc” in Other Menu. (➜ page 17).

Program play (up to 32 items)

e.g. DVD-V



1

Press to select an item (➜ page 9).

Repeat this step to program other items.

2

PLAY

Selecting all the items (on the disc or in the title or group)
Press **[ENTER]** and **[▲▼]** to select “ALL”, then press **[ENTER]** again to register.

Changing the program
Press **[▲▼]** to select an item.
–To change an item, repeat step 1.
–To clear an item, press **[CANCEL]** (or select “Clear” and press **[ENTER]**).

Clearing the whole program
Select “Clear all” and press **[ENTER]**. The whole program is also cleared when the unit is turned off or the disc lid is opened.

Random play

e.g. DVD-V

1 DVD-V WMA MP3 JPEG only

Press to select a group or a title (➜ page 9).

2

PLAY

To exit the program or random mode
Press **[PLAYMODE]** several times while stopped.

Playing data discs WMA MP3 JPEG

You can play JPEG files on DVD-RAM or play HighMAT discs without using the HighMAT function (➜ page 17, “Play as Data Disc” in Other Menu).

Playing items in order (Playback Menu) (except JPEG files on DVD-RAM)

While the menu is displayed

Press [▲▼] to select “All”, “Audio”, or “Picture” and press [ENTER].

- **To display/exit the screen :** Press **[TOP MENU].**

Playing from the selected item (Navigation Menu)

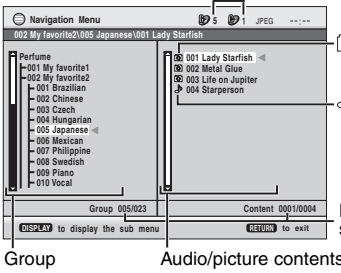
1 MENU

Press.

2

Press [▲▼◄►] to select the group and press [ENTER].

- To play content in the group in order: **Press [ENTER].**
- To start play from the selected content: **Press [▲▼] to select and press [ENTER].**



- **To listen to WMA/MP3 contents while showing a JPEG image on the screen**
  Select a JPEG file first, and then select WMA/MP3 contents. (The opposite order is not effective.)
- **To exit the screen :** Press **[MENU].**

■ *Using the submenu*

While the navigation menu (➜ see above) is displayed.

1 **Press [DISPLAY].**
2 **Press [▲▼] to select the sub menu (➜ see right) and press [ENTER].**

Submenu

✓Multi	Groups and content
List	Content only
Tree	Groups only
Thumbnail	Thumbnail images JPEG
Next group	To the next group WMA MP3
Previous group	To the previous group WMA MP3
All	WMA/MP3 and JPEG files
Audio	WMA/MP3 files only
Picture	JPEG files only
Help display	To switch between guide messages and the elapsed play time indicator
Find	To search by content or group title (➜ see below)

■ *Searching by a content or group title*

Press [◄ ►] to highlight a group title to search a group, or a content title to search its content.

1 **Select “Find”.** (➜ see above)
2 **Press [▲▼] to select a character and press [ENTER].**
- Repeat to enter another character.
- Lower case is also searched.
- Press and hold **[I◄◄, ►►I]** to skip between A, E, I, O and U.
- Press **[◄]** to erase a character.
- Erase the asterisk (✳) to search for titles starting with that character.

3 **Press [►] to select “Find” and press [ENTER].** The search result screen appears.
4 **Press [▲▼] to select the content or group and press [ENTER].**

Playing HighMAT™ discs WMA MP3 JPEG

While the menu is displayed
Press [▲▼◄ ►] to select items and press [ENTER].

Menu:
Takes you to the next menu which shows playlists or another menu.

Playlist:
Play starts.

- To return to the menu screen, press **[TOP MENU]** then press **[RETURN]** several times.
- To change the menu background, press **[DISPLAY]**. The background changes to the one recorded on the disc.
- To display/exit the screen, press **[TOP MENU]**.

Selecting from the list

1. During play, press **[MENU]**.
2. Press **[◄]** then **[▲ ▼]** to switch among “Playlist”, “Group” and “Content” lists.
3. Press **[►]** then **[▲ ▼]** to select an item and press **[ENTER]**.

- **To exit the screen :** Press **[MENU]**.

Playing programs/playlists on RAM/DVD-RW (DVD-VR) discs RAM DVD-RW (VR)

- Titles appear only if they have been entered.
- You cannot edit playlists and titles.

1

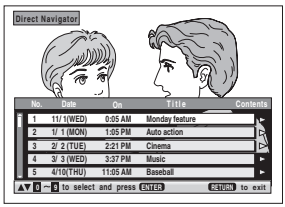
To play programs:

TOP MENU

To play playlists:

MENU

2


Direct Navigator
No. Date On Title Contents
1 11/ 1(WED) 0:05 AM Monday feature
2 1/ 1 (MON) 1:05 PM Auto action
3 2/ 2 (TUE) 2:21 PM Cinema
4 3/ 3 (WED) 3:37 PM Music
5 4/10(THU) 11:05 AM Baseball
to select and press ENTER
RETURN to exit

Playlist
No. Date Length Title
1 1/1 0:00:01 City Penguin
2 1/1 0:01:20 Ashley at Prom
3 2/2 1:10:04 Formula one
4 3/3 0:10:20 Soccer
5 4/10 0:00:01 Baseball
6 4/11 0:00:01 City Penguin
7 4/15 0:01:10 Ashley at Prom
8 4/17 0:13:22 Formula one
9 4/20 0:05:30 Soccer
10 4/22 0:07:29 Baseball
to select and press ENTER
RETURN to exit

Press [▲▼] to select the program or playlist and press [ENTER].

- Only when the disc contains a playlist.

- You can also use **the numbered buttons** on the remote control (➜ page 9).
- Press **[►]** to show the contents of the program (Only when playing the program).
- **To exit the screen :** Press **[TOP MENU]** or **[MENU]**.

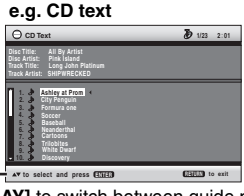
Playing CD CD

Titles appear with CD text playback.

1

MENU

e.g. CD text



2

Press [▲▼] to select the tracks and press [ENTER].

- **To exit the screen :** Press **[MENU]**.

Press **[DISPLAY]** to switch between guide messages and the elapsed play time indicator.

Using On-Screen Menus

1 DISPLAY **Press once.** **2**

① Press [▲▼] to select the menu.
② Press [►] to go to the next menu and [▲▼] to set.

Repeat step ② if necessary.

- Press **[◄]** to go to the previous menu.
- Items shown differ depending on the type of software.
- There are items which you can select using **the numbered buttons** and **[ENTER]** on the remote control.
- If the setting does not change, press **[ENTER]**.
- To finish, press **[RETURN]**.

Main menus

Program, Group, Title Chapter, Track, Playlist Content	**To start from a specific item**
Time	**To skip incrementally or decrementally* (Time Slip for play only)** 1. Press **[ENTER]** twice to show Time Slip indicator. 2. Press **[▲ ▼]** to select the time and press **[ENTER]**. ●Press and hold **[▲▼]** to alter faster. **To start from a specific time* (Time Search)** **To change remaining/elapsed time display**
Audio	(➜ page 11, Changing soundtracks)
	To display the current bitrate or sampling frequency
Thumbnail	**To show thumbnail images**
Subtitle	(➜ page 11, Changing subtitles)
Marker(VR)	**To recall a marker recorded on DVD-Video recorders**
Angle	(➜ page 11, Angle select)
Rotate picture	(➜ page 11, Still picture rotation)
Slideshow	**To turn on/off slideshow** **To change the slideshow timing (0–30 sec)**
Other Settings	**(➜ See below)**

* Except +R/+RW

Other Settings

Play Speed	(➜ page 10, Changing play speed)

Play Menu (Only when the elapsed play time can be displayed, JPEG: The Repeat and Marker functions can be used.)

Repeat	(➜ page 10, Repeat play)
A-B Repeat	(➜ page 10, A-B Repeat)
Marker Except RAM DVD-RW (VR)	**To mark up to 5 positions to play again** **[ENTER]** (The unit is now ready to accept markers.) To mark a position: **[ENTER]** (at the desired point) To mark another position: **[◄ ►]** to select "✳"**➜ [ENTER]** To recall a marker: **[◄ ►] ➜ [ENTER]** To erase a marker: **[◄ ►]➜ [CANCEL]** (Remote control) ● This feature doesn't work during program and random play. ● Markers you add clear when you open the disc lid or switch the unit to standby.

Picture Menu

Picture Mode	(➜ page 12, Picture Mode)

Audio Menu

Advanced Surround	(➜ page 10, Enjoying virtual surround)
Dialogue Enhancer	**To make the dialogue in movies easier to hear** **DVD-V** **(**Dolby Digital, DTS, 3-channel or over, with the dialogue recorded in the center channel) **On ⟷ Off**
Multi Re-master	(➜ page 12, Multi Re-master)

Display Menu

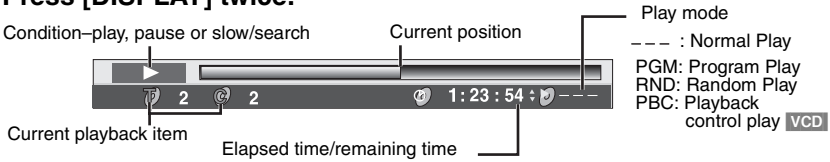
Information	**On ⟷ Off (JPEG: Off, Date, Details)**
Subtitle Position	**0 to −60 (in of 2 units)**
Subtitle Brightness	**Auto, 0 to −7**
Just Fit Zoom	**RAM** **DVD-RW (VR)** **DVD-V** **VCD** To expand the letterbox picture to fit the screen. Press **[▲▼]** to select the preset aspect ratio or “Auto”.
Manual Zoom	**RAM** **DVD-RW (VR)** **DVD-V** **VCD** Press **[▲▼]** for fine adjustments. (Press and hold to alter faster.) –from ×1.00 to ×1.60 (in 0.01 units) –from ×1.60 to ×2.00 (in 0.02 units)
Bitrate Display	**RAM** **DVD-RW (VR)** **DVD-V** **VCD** **On ⟷ Off**
GUI See-through	**On ⟷ Off**

Other Menu

Setup	(➜ page 18, Changing the player settings)
Play as DVD-VR **Play as HighMAT** or **Play as Data Disc**	• While stopped, select “Play as Data Disc” to play JPEG files on DVD-RAM or to play a HighMAT disc without using the HighMAT function.

Checking the play status (Elapsed play time indicator)

Press [DISPLAY] twice.



• **To exit the screen :** Press **[RETURN].**

Changing the player settings

Remote control only

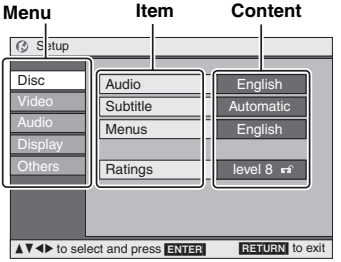
- Referring to pages 18 to 19, change as required.
- Underlined items are the factory presets.

The settings remain intact even if you switch the unit to standby.

1 SETUP

2 ▲ ◄ ENTER ► ▼

Press [▲ ▼ ◄ ►] to select the menu, item, content and press [ENTER].



- To return to the previous screen, press **[RETURN]**.
- To finish the SETUP menu, press **[SETUP]**.
- While stopped, the menu is also displayed when **[MENU]** on the main unit is pressed; however, when a DVD-RAM or HighMAT CD is being used a playlist menu appears.

“Disc” tab

Audio	● English ● French ● Spanish ● Original (The original language designated on the disc is selected) ● Other✳✳✳✳※
Subtitle	● Automatic [If the language selected for “Audio” is not available, subtitles appear in that language (If available on the disc).] ● English ● French ● Spanish ● Other✳✳✳✳※
Menus	● English ● French ● Spanish ● Other✳✳✳✳※
Ratings Set a ratings level to limit DVD-Video play. ● Follow the on-screen instructions.	Setting ratings (When level 8 is selected) ● 8 No Limit. ● 1 to 7: Prohibits play corresponding to ratings recorded on the disc. ● 0 Lock All: To prevent play of discs without ratings levels. When setting a ratings level, a password screen is shown. Follow the on-screen instructions. **Do not forget your password.** A message screen will be shown if a DVD-Video exceeding the ratings level is inserted in the unit. Follow the on-screen instructions.

※Input a code number referring to the table on page 19.

“Video” tab

TV Aspect Choose the setting to suit your television and preference.	● 4:3 Pan&Scan: Regular aspect television (4:3) The sides of the widescreen picture are cut off so it fills the screen (unless prohibited by the disc). ● 4:3 Letterbox: Regular aspect television (4:3) Widescreen picture is shown in the letterbox style. ● 16:9: Widescreen television Use the television’s screen modes to change the way the picture is shown.
Still Mode Specify the type of picture shown when paused.	● Automatic ● Field: The picture is not blurred, but picture quality is lower. ● Frame: Overall quality is high, but the picture may appear blurred.

“Au

PCM

Ou

bitstream is output to the equipment without a decoder, high levels of noise can be output and may damage your speakers and hearing.)

n the volume is low through compressing
l level and the highest sound level.
ng. (Only works with Dolby Digital).

→ page 1
press [ENTER]
n, wait for about 10
e unit off and on again.

age

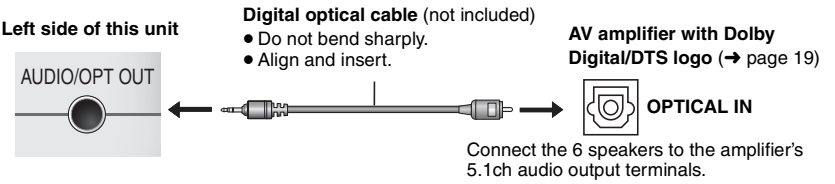
zian:	65			Samoan:	8377
ar:	6		83	Sanskrit:	8365
Afrikaans:			776	Scots Gaelic:	
Albanian:			7784		7168
Amehari			7773	Serbian:	8382
Arabic:			thi: 7782	Serbo-Croatian:	
Armer			oldavian: 7779		8372
Assa				Shona:	8378
Ayr					
A					

Tibetan:	6679
Tigrinya:	8473
Tonga:	8479
Turkish:	8482
Turkmen:	8475
Twi:	8487
Ukrainian:	8575
Urdu:	8582
	8590

Using this unit with other equipment

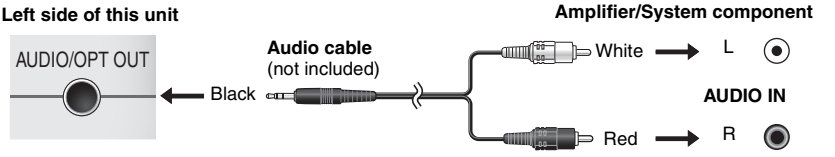
Turn off all equipment before connecting and read the appropriate operating instructions.

Enjoying with 5.1ch audio


Left side of this unit
AUDIO/OPT OUT
Digital optical cable (not included)
● Do not bend sharply.
● Align and insert.
AV amplifier with Dolby Digital/DTS logo (➜ page 19)
OPTICAL IN
Connect the 6 speakers to the amplifier's 5.1ch audio output terminals.

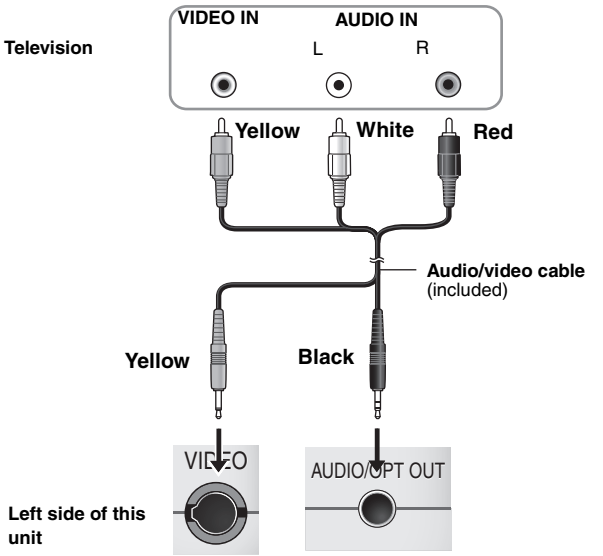
● Change "PCM Digital Output", "Dolby Digital", and "DTS Digital Surround" (➜ page 19).

Enjoying stereo audio



Television connections

Connect the video output from this unit directly to the television.



If you raise the volume on the television while playing this unit, the volume may abruptly become very loud when you switch to a television broadcast. Return the volume to its normal level before changing.

Using a Car DC Adaptor (included)

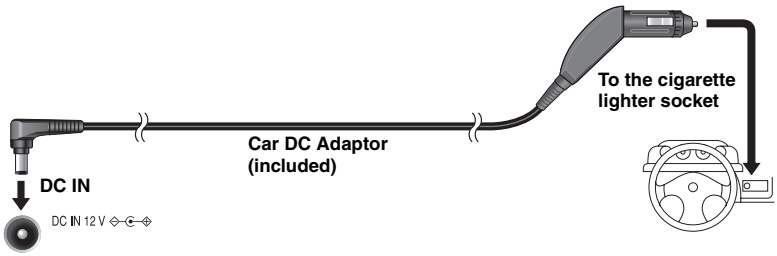
Do not leave the unit on a surface that may become hot such as a dashboard. The unit is not heat-resistant so may malfunction.

The driver must not operate this unit while the vehicle is moving.
Do not operate this unit where it can be viewed by the driver.
Driver operation or viewing of this unit while the vehicle is moving will cause distraction which may result in serious accident and personal injury or property damage.

Connections

Before connection, consult your car owner's manual or your dealer.

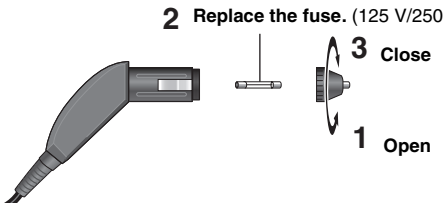
- Connect to the cigarette lighter socket of a vehicle that has a 12 V battery. It is not compatible with a vehicle that has a 24 V battery.
- This is a special negative grounded Car DC Adaptor. Using this Car DC Adaptor with a plus grounded car can cause malfunction and lead to fire.



Left side of this unit
Place the unit on a stable surface.

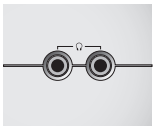
Replacing the fuse

Replace only with the specified 125 V/250 V, 2.5 A fuse. Use of any other type can cause fire.



Cautions

- **To avoid draining your car battery**
  - –Disconnect the Car DC Adaptor from the cigarette lighter after use. The Car DC Adaptor continues to consume some power even if it is not being used, and if a battery pack is attached to this unit, it will start recharging which uses more power.
  - –Do not use the Car DC Adaptor for long periods when the engine is not running.
  - –Do not recharge the battery pack with this Car DC Adaptor. Use the AC adaptor included with this unit.
- When starting an engine, pull Car DC Adaptor out of the cigarette lighter socket. Mishandling of the Car DC Adaptor can cause malfunction.
- No responsibility will be taken for damage that occurs due to faulty installation.
- Leave some slack in the cord.



(Left side of this unit)

You can enjoy audio through your car audio system by connecting a car stereo cassette adaptor (not included: RP-CC20) to the headphone jack on the left side of this unit.

Frequently asked questions

Reference pages are shown in parentheses.

What kind of equipment is necessary to enjoy 5.1ch audio?	Connect to an AV amplifier (that has 5.1ch audio output terminals) displaying the Dolby Digital/DTS logo. **(19)**
Can I play a DVD-Video bought in another country?	You can play if the region number includes “1” or “ALL” and the video standard is NTSC. Check the disc jacket.
Can I use on an airplane or in a hospital?	Electromagnetic waves that are emitted from this unit may affect equipment on an airplane or in a hospital. Please obey the rules and/or instructions indicated by the hospital or airline.
Can I use in a car?	You can use this unit by connecting with the included Car DC Adaptor for power. Damage may occur if you do not use the specified car adaptor. **(21)**
Can I connect with a computer?	You can enjoy use of the computer as a television monitor when connecting with the AV input terminal on a computer. However, you cannot operate this unit as peripheral equipment.

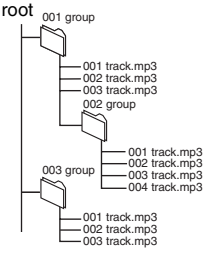
Tips for making WMA/MP3 and JPEG discs (For CD-R/CD-RW)

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
- If groups were created away from the root like “002 group” in the illustration below, the eighth one and onwards are displayed on the same vertical line in the menu screen.
- There may be differences in the display order on the menu screen and computer screen.
- This unit cannot play files recorded using packet write.

Naming folders and files
(Files are treated as content and folders are treated as groups on this unit.)

At the time of recording, prefix folder and file names. This should be with numbers that have an equal number of digits, and should be done in the order you want to play them (this may not work at times).
Files must have the extension:
“.WMA” or “.wma”
“.MP3” or “.mp3”
“.JPG”, “.jpg”, “.JPEG” or “.jpeg”

e.g. MP3



WMA

- You cannot play WMA files that are copy protected.
- This unit is not compatible with Multiple Bit Rate (MBR: a file that contains the same content encoded at several different bit rates).

MP3

- This unit is not compatible with ID3 tags.
- Compatible sampling rate: 8, 11.02, 12, 16, 22.05, 24, 32, 44.1, and 48 kHz

JPEG

- JPEG files taken on a digital camera that conform to the DCF Standard Version 1.0 are displayed.
  – Pictures taken using digital camera functions not supported by DCF like automatic picture rotation may not be displayed.
  – Files that have been altered, edited or saved with computer picture editing software may not be displayed.
- This unit cannot display moving pictures, MOTION JPEG and other such formats, still pictures other than JPEG (e.g. TIFF) or play pictures with attached audio.

Specifications

Operating temperature range:
+5 to +35 °C (+41 to +95 °F)
Operating humidity range:
5 to 85 % RH (no condensation)
Discs played [8 cm (3 ″) or 12 cm (5 ″)]:
(1) DVD (DVD-Video)
(2) DVD-RAM (DVD-VR, JPEG※4, 5)
(3) DVD-R (DVD-Video)
(4) DVD-RW (DVD-Video, DVD-VR)
(5) +R/RW (Video)
(6) CD, CD-R/RW [CD-DA, Video-CD, SVCD※1, MP3※2, 5, WMA※3, 5, JPEG※4, 5, HighMAT Level 2 (Audio and Image)]

Signal system: NTSC
LCD screen: 9″ α-Si, TFT wide-screen LCD
Composite-video output:
Output level: 1 Vp-p (75 Ω)
Output terminal: Mini-jack
Number of terminals: 1 system
Audio output:
Output level: 1.5 Vrms (1 kHz, 0 dB, 10 kΩ)
Output terminal: Stereo mini-jack
Number of terminals: 1 system
Audio performance:
(1) Frequency response:
● DVD (linear audio):
4 Hz to 22 kHz (48 kHz sampling)
4 Hz to 44 kHz (96 kHz sampling)
● CD audio: 4 Hz to 20 kHz
(2) S/N ratio:
● CD audio: 115 dB
(3) Dynamic range:
● DVD (linear audio): 98 dB
● CD audio: 97 dB
(4) Total harmonic distortion:
●CD audio: 0.008 %
Digital audio output:
Optical digital output: Mini optical terminal
Number of terminals: 1 system
(also used for audio output)
Pickup:
Wave length: 662 nm/785 nm (DVD/CD)
Laser power: CLASS II/CLASS I (DVD/CD)

Power supply: DC 12 V (DC IN terminal)/ DC 7.2 V (Exclusive battery terminal)
Power consumption (using included AC adaptor)**:** 13 W (Unit only: 10 W)
Power consumption in Standby mode (using included AC adaptor): **approx. 0.5 W**
Power consumption in Recharge mode (using included AC adaptor)**:** 13 W
AC adaptor:
Power source: AC 100 to 240 V, 50/60 Hz
Power consumption: 28 W
DC output: 12 V, 1.5 A
Car DC Adaptor:
DC input: 12 V, 20 W
DC output: 12 V, 1.5 A
Battery pack (lithium ion)
CGR-H702 (DVD-LS90 included**):**
Voltage: 7.2 V
Capacity: 4700 mAh
CGR-H703 (DVD-LS93 included**):**
Voltage: 7.2 V
Capacity: 8600 mAh
Dimensions (W×D×H)
(excluding protrusions and battery):
DVD-LS90:235.4 mm×178.6 mm×39.0※ mm (9 9/32″×7 1/32″×1 17/32″)
※29.9 mm (1 3/16″) at lowest point
[D=185 mm (7 9/32″) including battery]
[H=51.5 mm (2 1/32″) including battery]
DVD-LS93:235.4 mm×178.6 mm×39.0※ mm (9 9/32″×7 1/32″×1 17/32″)
※29.9 mm (1 3/16″) at lowest point
[D=201.4 mm (7 15/16″) including battery]
[H=51.5 mm (2 1/32″) including battery]
Mass (including battery)**:**
DVD-LS90:1097 g (38.69 oz)
DVD-LS93:1280 g (45.15 oz)

Note

Specifications are subject to change without notice. Mass and dimensions are approximate.

※1 Conforming to IEC62107
※2 Compatible compression rate: between 32 kbps and 320 kbps
※3 Compatible compression rate: between 48 kbps and 320 kbps
※4 Exif Ver 2.1 JPEG Baseline files
Picture resolution: between 320×240 and 6144×4096 pixels (Sub sampling is 4:2:2 or 4:2:0)
※5 The total combined maximum number of recognizable audio and picture contents and groups: 4000 audio and picture contents and 400 groups.

Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the “Customer Services Directory” on page 29 if you reside in the U.S.A., or refer to the “Product information” on page 29 if you reside in Canada. In other areas, consult your dealer for instructions. (Reference pages are shown in parentheses.)

The following do not indicate malfunction.
- Sound from the AC adaptor during recharging.
- The battery pack warming up when recharging or during use.
- The surface and area around the unit becoming warm when used for long periods.

Power

No power.	● Check connections to the AC adaptor or battery pack. **(6)** ● **You cannot turn on the unit with the remote control if the unit is powered by the battery pack.** ● The unit has protection circuitry that is activated if it becomes too hot or too cold. The unit will not work if this occurs. Use the unit between 5 °C (41 °F) and 35 °C (95 °F).
Unit turns off automatically.	● The unit turns off after it has been stopped for about 15 minutes (5 minutes when the unit is powered by the battery pack) to conserve power. Turn the unit on again.
Cannot charge or the [CHG] indicator fails to light.	● The battery pack can only be recharged when the unit is off. ● The charging time increases when the temperature is too hot or too cold, and charging may not be possible under some circumstances. ● Check connections to the AC adaptor or battery pack. **(6)**
Play time dramatically reduced after recharging.	● The battery pack has reached the end of its service life (It can be recharged about 300 times).

No operation

No response when any buttons pressed.	● This unit cannot play discs other than the ones listed in these operating instructions. **(5)** ● The unit may not be operating properly due to lightning, static electricity or some other external factor. Turn the unit off and then back to ON. Alternatively, turn the unit off, disconnect the power source (AC or battery pack), and then reconnect it. ● Condensation has formed: Wait 1 to 2 hours for it to evaporate.
No response when remote control buttons pressed.	● Check that the battery is installed correctly. **(7)** ● The battery is depleted: Replace it with new one. **(7)** ● Point the remote control at the remote control sensor and operate. **(7)**
You have forgotten your ratings password. Reset all the settings to Factory Preset.	● While stopped, press and hold **[I◀◀]** and **[❚❚]** on the unit and then also press and hold **[►, ON]** on the unit until “Initialized” disappears from the screen. Turn the unit off and on again. All settings will return to the default values.
No picture or sound.	● Check that the disc has something recorded on it.

Specific operation impossible or incorrect

It takes time before play starts. MP3	• Play may take time to begin when an MP3 track has still picture data. Even after the track starts, the correct play time will not be displayed; however, this is normal.
The program and random play functions do not work. DVD-V	• These functions do not work with some DVD-Videos.
Menu doesn't appear. VCD with playback control	• Press **[■]** twice and then press **[►]** (PLAY).
Subtitle position is wrong.	• Adjust the position. ("Subtitle Position" in Display Menu) **(17)**
No subtitles.	• Display the subtitles. **(11)**
The subtitles overlap closed captions recorded on discs.	• Clear the subtitles. **(11)**
In A-B repeat, point B is automatically set.	• The end of an item becomes point B when it is reached.
Play doesn't start. WMA	• This unit may not play WMA that contains still picture data.

Picture incorrect

No picture on the LCD.	• Select a monitor mode other than "OFF" (no picture). **(11, Selecting how to show 4:3 aspect pictures on the LCD)**.
The LCD is dark.	• Adjust the brightness. **(11)**
LCD pixels turn black or radiate different colors.	• The LCD is constructed with precision technology so 99.99 % of the pixels are active, but of the remaining of 0.01 %, there are pixels that may be black or emit light constantly. This phenomenon is not a malfunction.
Picture doesn't appear on the television (or the size of the picture seems wrong).	• Check connections. **(20)** • Check that the television is on. • Check that the input mode on the television is correct. • Check the settings in "Video—TV Aspect". **(18)** • Turn off the zooming feature on your television if you are using Zoom. **(17)** • Ensure that the unit is connected directly to the television, and is not connected through a video cassette recorder. **(20)**
Menu not displayed correctly.	• Restore the zoom ratio to ×1.00. **(17)** • Set "Subtitle Position" in Display Menu to "0". **(17)**
Auto zoom function does not work well.	• Use the other preset aspect ratios or manual adjustment. **(17)** • Zoom function may not work well, especially in dark scenes and may not work depending on the type of disc.

Troubleshooting guide

Sound incorrect

Sound distorted.	● Select “Off” in “Advanced Surround”. **(10)** ● Move unit away from mobile phones. ● Noise may occur when playing WMA files.
Piercing noise comes from the speakers.	● If you have connected a digital amplifier which does not include decoder, be sure to select “PCM” in “Dolby Digital” or “DTS Digital Surround” in “Audio” tab. **(19)**
Effects do not work.	● None of the audio effects work when the unit is connected through the digital optical cable and is outputting bitstream signals. **(20)** ● Some audio effects do not work or have less effect with some discs. ● Advanced Surround and Multi Re-master do not work if you have changed the play speed.
No sound from the unit’s speaker.	● The speaker is off if the LCD is closed or headphones are connected. ● Turn up the volume. **(8)**
No sound from other speakers.	● Check all connections and settings. **(20)**
No sound when you change the play speed.	● There may be a pause in sound.

Recording

Cannot record to digital recording equipment. (Incorrect sound recorded.)	● You cannot record WMA/MP3. ● You cannot record DVDs that have protection preventing digital recording. ● You cannot record DVDs if the recording equipment cannot handle signals with a sampling frequency of 48 kHz. ● Make the following settings: – Advanced Surround: Off **(10)** – PCM Digital Output: Up to 48 kHz **(19)** – Dolby Digital/DTS Digital Surround: PCM **(19)**

Displays

“⃠”	● The operation is prohibited by the unit or disc.
No On-Screen display.	● Select “On” for “On-Screen Messages” in “Display” tab. **(19)**
“Check the disc.”	● Clean the disc. **(27)**
“ ERROR 01”	● A problem has occurred with the battery pack. Consult your dealer.
“ ERROR 02”	● The battery pack has been recharging for 12 hours but has failed to recharge for some reason. Recharge again.
“ ERROR 03”	● You are recharging in a location that is too hot or too cold. Recharge at normal temperature [+5 to +35 °C (+41 to +95 °F)].
“H □□” □□ stands for a number.	● Trouble has occurred. The number appearing after “H” depends on the problem. Turn the unit off and on again. Alternatively, turn the unit off, disconnect the power source (AC or battery pack), reconnect the power and turn the unit on again. If the service numbers fail to clear, note the service numbers and consult your dealer.
“Cannot display group xx, content xx”	● You are trying to play incompatible groups or content. **(22)**

[⏻] and [CHG] indicators

The [⏻] indicator flashes rapidly.	● The unit has malfunctioned. Consult your dealer.
The [⏻] indicator flashes slowly.	● The unit is on and the LCD is closed or the monitor mode is set to "OFF" (no picture). Turn the unit off when you have finished.
The [CHG] indicator flashes rapidly.	● There is a problem with the battery pack. Turn the unit on and check the message on the LCD. **(26)**
The [CHG] indicator flashes slowly.	● Battery pack charge is low. The unit will turn off automatically after a few minutes.

Maintenance

To clean this unit, wipe with a soft, dry cloth.

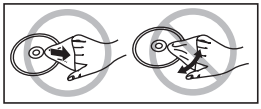
- Use eyeglass cleaner to remove stubborn dirt from the LCD.
- Never use alcohol, paint thinner or benzine to clean this unit.

Maintenance of the lens

- Remove dust carefully with an air blower for camera lenses (optional).
- Recommended product:
  Lens cleaner kit (SZZP1038C)
  (Available from Panasonic dealers.)
- You cannot use a CD type lens cleaner.
- Be careful not to touch the lens with your fingers.

To clean discs

- Wipe with a damp cloth and then wipe dry.



Disc handling precautions

- Do not attach labels or stickers to discs (This may cause disc warping, rendering it unusable).
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.
- Do not use the following discs:
  – Discs with exposed adhesive from removed stickers or labels (rented discs etc).
  – Discs that are badly warped or cracked.
  – Irregularly shaped discs, such as heart shapes.

User memo:

DATE OF PURCHASE _____
DEALER NAME _____
DEALER ADDRESS _____
_____
TELEPHONE NUMBER _____

The model number and serial number of this product can be found on either the back or the bottom of the unit. Please note them in the space provided below and keep for future reference.

MODEL NUMBER _____

SERIAL NUMBER _____

Limited Warranty (ONLY FOR U.S.A.)

Panasonic Consumer Electronics Company, Division of Panasonic Corporation of North America
One Panasonic Way Secaucus,
New Jersey 07094

Panasonic Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5
San Gabriel Industrial Park, Carolina,
Puerto Rico 00985

Panasonic DVD Player Limited Warranty

Limited Warranty Coverage
If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Puerto Rico, Inc. (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
DVD Player	One (1) Year	Ninety (90) Days
Rechargeable Batteries (in exchange for defective item)	Ten (10) Days	Not Applicable

During the "Labor" Limited Warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. If non-rechargeable batteries are included, they are not warranted. This Limited Warranty only applies to products purchased and serviced in the United States or Puerto Rico. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

Mail-In Service
For assistance in the continental U.S.A. in obtaining repairs please ship the product to:

Panasonic Services Company
Customer Servicenter
Suite B
4900 George McVay Drive
McAllen, TX 78503

For assistance in Puerto Rico call Panasonic Puerto Rico, Inc. (787)-750-4300 or fax (787)-768-2910.

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

IF REPAIR IS NEEDED DURING THE LIMITED WARRANTY PERIOD THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.

Limited Warranty Limits And Exclusions
This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or commercial use (such as hotel, office, restaurant, or other business), rental use of the product, or service by anyone other than a Factory Servicenter or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the servicer, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)
ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied Limited Warranty lasts, so the exclusions may not apply to you.

This Limited Warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the Limited Warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.

Customer Services Directory

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Servicenter; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:

http://www.panasonic.com/consumersupport

or, contact us via the web at:

http://www.panasonic.com/contactinfo

You may also contact us directly at:
1-800-211-PANA (7262),
Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:

http://www.pasc.panasonic.com

or, send your request by E-mail to:

npcparts@us.panasonic.com

You may also contact us directly at:
1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only) (Monday – Friday 9 am to 8 pm, EST.)
Panasonic Services Company
20421 84th Avenue South, Kent, WA 98032
(We Accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY : 1-866-605-1277

Service in Puerto Rico

Panasonic Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Phone (787)750-4300, Fax (787)768-2910

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Product Service

1. **Damage requiring service**—The unit should be serviced by qualified service personnel if:
   (a) The AC power supply cord or AC adaptor has been damaged; or
   (b) Objects or liquids have gotten into the unit; or
   (c) The unit has been exposed to rain; or
   (d) The unit does not operate normally or exhibits a marked change in performance; or
   (e) The unit has been dropped or the cabinet damaged.
2. **Servicing**—Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
3. **Replacement parts**—When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
4. **Safety check**—After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

Product information

For product information or assistance with product operation:
In the U.S.A., refer to “Customer Services Directory” above.

In Canada, contact the Panasonic Canada Inc. Customer Care Centre at 1-800-561-5505, or visit the website (www.panasonic.ca), or an authorized Servicentre closest to you.

Limited Warranty (ONLY FOR CANADA)

Panasonic Canada Inc.
5770 Ambler Drive, Mississauga, Ontario L4W 2T3

PANASONIC/TECHNICS PRODUCT—LIMITED WARRANTY

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship and agrees to remedy any such defect, or at its option, replace the product for a period as stated below from the date of original purchase.

Technics Audio Product	**One (1) year, parts and labour**
Panasonic Audio & DVD Product	**One (1) year, parts and labour**
Accessories including rechargeable batteries	**Ninety (90) days**

LIMITATIONS AND EXCLUSIONS

This warranty does not apply to products purchased outside Canada or to any product which has been improperly installed, subjected to usage for which the product was not designed, misused or abused, damaged during shipping, or which has been altered or repaired in any way that affects the reliability or detracts from the performance, nor does it cover any product which is used commercially. Dry cell batteries are also excluded from coverage under this warranty. This warranty is extended to the original end user purchaser only. A purchase receipt or other proof of date of original purchase is required before warranty service is performed.

THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES.

In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable.

WARRANTY SERVICE

For product operation and information assistance, please contact your Dealer or our Customer Care Centre at: Telephone #: (905) 624-5505 Fax #: (905) 238-2360 Web: www.panasonic.ca

For product repairs, please contact one of the following:

- Your Dealer who will inform you of an authorized Servicentre nearest you.
- Our Customer Care Centre at (905) 624-5505 or www.panasonic.ca
- A Panasonic Factory Servicentre listed below:

Richmond, British Columbia	Calgary, Alberta	Mississauga, Ontario	Lachine, Québec
Panasonic Canada Inc.	Panasonic Canada Inc.	Panasonic Canada Inc.	Panasonic Canada Inc.
12111 Riverside Way	6835-8th St. N. E.	5770 Ambler Dr.	3075, rue Louis A. Amos
Richmond, BC	Calgary, AB	Mississauga, ON	Lachine, QC
V6W 1K8	T2E 7H7	L4W 2T3	H8T 1C4
Tel: (604) 278-4211	Tel: (403) 295-3955	Tel: (905) 624-8447	Tel: (514) 633-8684
Fax: (604) 278-5627	Fax: (403) 274-5493	Fax: (905) 238-2418	Fax: (514) 633-8020

IF YOU SHIP THE PRODUCT TO A SERVICENTRE

Carefully pack and send prepaid, adequately insured and preferably in the original carton.
Include details of the defect claimed, and proof of date of original purchase.

Manufactured under license from Dolby Laboratories. “Dolby” and the double-D symbol are trademarks of Dolby Laboratories.

“DTS” and “DTS 2.0 + Digital Out” are trademarks of Digital Theater Systems, Inc.

Apparatus Claims of U.S. Patent Nos. 4,631,603, 4,577,216, and 4,819,098, licensed for limited viewing uses only.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

HighMAT™ and the HighMAT logo are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

Listening caution

Do not play your headphones or earphones at a high volume. Hearing experts advise against continuous extended play.
If you experience a ringing in your ears, reduce volume or discontinue use.
Do not use while operating a motorized vehicle. It may create a traffic hazard and is illegal in many areas.
You should use extreme caution or temporarily discontinue use in potentially hazardous situations.
Even if your headphones or earphones are the open-air type designed to let you hear outside sounds, don’t turn up the volume so high that you can’t hear what’s around you.
Sound can be deceiving. Over time your hearing “comfort level” adapts to higher volumes of sound. So what sounds “normal” can actually be loud and harmful to your hearing.
Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.
To establish a safe level:
- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
- Leave it there.

Do not rest the unit on your lap for a long time while using it. The unit can become hot and cause burns.

To prevent damage
Avoid the following:
- Spraying flammable insecticides near the unit.
- Pressing the LCD.
- Touching the lens and other parts of the laser pickup.

Do not use the unit in the following places:
- Sandy places such as beaches.
- On top of cushions, sofas, or hot equipment such as amplifiers.

Do not leave in an unventilated automobile or exposed to direct sunlight and high temperatures.